



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

DAVIS'S LOGIC OF ALGEBRA.*

The present century has been prolific in its contributions to formal algebra—the philosophy that underlies the symbols and the operations of this science. The fraction, the negative, the incommensurable, and the imaginary have forced mathematicians to examine the foundations upon which they were building. The work of Grassman and of Hamilton broadened the field and by extending the meanings of the fundamental operations, quickened the interest in this examination.

Our American text-books have been slow to recognize the importance of these investigations. For this our technical schools and colleges have been somewhat to blame. They demand, before everything, that applicants and students shall be expert problem solvers, and little time is given to the consideration of the reasoning that underlies the algebraic processes. To be expert in the solution of problems is very desirable, but the *educational* value of algebra undoubtedly lies, not so much in this as in the practice which it might give in abstract thinking. To the great majority of men algebra as an *instrument* or *machine* is useless, but the practice it gives or ought to give in connected and accurate thought is of the greatest value to everyone.

In the book before us Mr. Davis has attempted, as we think successfully, to exhibit in a logical manner the fundamental laws that govern algebraic processes. He insists, at the outset, on the purely *formal* nature of the science. He elucidates clearly and succinctly the gradual extension of the meanings of the ordinary arithmetical operations of addition, division, etc. The pupil is gradually led from the consideration of operations performed on integers to the consideration of similar operations performed on fractions, on incommensurables, and on imaginaries.

The most commendable features, among many that are excellent, are his insistence on the “cut and try” nature of the inverse operations, and his full and careful treatment of incommensurables. On the other hand, we are disposed to think that the subject of imaginaries is easier of comprehension when presented in a somewhat different form.

The work is admirably adapted to students who already know their algebra as it is generally taught, and it is invaluable to teachers who wish to impress on their pupils the importance of the foundations of this branch of mathematics.

W. P. D.

* An Introduction to the Logic of Algebra. By Ellery W. Davis, Ph. D. New York: John Wiley & Sons.